## Index to Volume LXX-1986

#### How to Use This Index

Items are listed according to the monthly column in which they appeared and/or under any category(s) that generally describes them. Examples: "A CW Program Cartridge for the Atari Computer" is listed under Technical Feature Articles and Computers. "Major ARRL Operating Events and Conventions—1986" is listed under Organizational and in the Mini Directory at the end of this index.

#### **AFFILIATED CLUBS IN ACTION**

Annual Report, The 1986: 83, Jan Be an Audience: 75, Dec Ideas from KB9UM, More Great: 90, Mar; 65, May; 74, Jun Integrated Turbo Publicity: 76, Jul NEATS (Novice Equipment and Training Service): 73, Aug Where the Action Is: 65, Nov

#### ANTENNAS AND TRANSMISSION LINES

Aerials—A Lost Art (Murphy): 20, Jul Antennas: From the Ground Up (Hall): 37, Jun Broadband Antenna for 80/75 Meters,

A Truly (Wermager): 23, Apr Broadband Dipoles—Some New Insights (Witt): 27, Oct

**CATVI Field-Strength Measurements** Made Easy (Bonaguide): 42, Feb Gaining on the Decibel—Part 3

(Shuch): 29, Apr Loop Antennas, Small, High-Efficiency (Hart): 33, Jun

Mode-L Parabolic Antenna and Feedhorn for OSCAR 10, A (Ruperto): 24, May Feedback: 40, Aug

Mounting Large-Size Antennas, An Alternative Method of

(Meyer): 28, Aug Rotator Controller, An Automatic (Bloom): 40, Sep Feedback: 46, Nov

Tribander, Tune Up Your (Pagel): 27, Apr

Wire Log-Periodic Dipole Array for 80 or 40 Meters, Construct a (Uhl): 21, Aug

Yagi, The W2PV Four-Element (Myers): 15, Oct 160-Meter Linear-Loaded Sloper, The KI6O (Yungling): 26, Apr

#### **BEGINNER'S BENCH**

Four Watts, QSK, for 24.9 MHz: 23, Feb SSB Gear, The Principles and Building of: 29, Jan

#### CANADIAN NEWSFRONTS Affiliate with CRRL: 71, Jan

CRRL Board Meeting Minutes, 1986 May 24: 79, Sep Jack Ravenscroft, VE3SR: QRT: Last Spike Remembered: 67, Feb Meet the General Manager: 57, Apr Meet Your New Directors: 61, Nov RABC: 79. Mar

Ravenscroft Case, The: A View from DOC: 67, Oct Restructuring: CRRL and CARF

Submit Joint Comments: 66, Aug "We Couldn't Have Done It Without the Hams": 70, Dec What the Minister Said: 62, May

Who Decides What CRRL Will Do?: 64, Jul

#### COMPUTERS

Code with One Hand, Send Error-Free (Quay and Turrin): 25, Jan Atari Computer, A CW-Program Cartridge for the (Stuntz): 34, Aug Feedback: 47, Dec Microcontroller, The ARRL (Bloom): 14, Jul

Real-Time HF WEFAX Maps on a Dot-Matrix Printer (Sueker): 15, Mar Feedback: 43, Jul

Spreadsheets for the Modern Hamshack (Ward): 29, Feb Universal Grid-Locator Program for

Your Personal Computer (Overbeck): 30, Dec

WeatherFAX Gray-Scale Generator (Isleib): 22, Nov

#### On Line

Computer-Controlled Radio: 58, Nov Ham Radio Bulletin Boards: 59. Apr. More Packet-Radio POPCORN: 64. Oct Packet Radio for the Commodore: 70, Feb Packet Radio POPCORN: 65, Aug

"RATTing" Apples Talk!: 63, Jun Software for the Ham Shack: 69, Jul Survey Results: 76, Jan

#### **CONTESTS & OPERATING ACTIVITIES**

Can-Am Contest Results, 1985:

Club Competition Rules and Contest Disqualification Criteria: 94, Jan CRRL Can-Am Contest, Rules:

84, Aug EME Competition, Results, Ninth

ARRL International: 86, May EME Competition, Rules, Tenth ARRL International: 100, Sep Field Day Rules: 79, May

Field Day 1986: 73, Nov Great Armadillo Run of 1986, The Texas DX Society Announces the: 73, Apr

IARU HF Championship, Rules, First: 78, Apr

IARU Radiosport Championship, Results, Ninth: 84, Feb

International DX Contest, 1987 ARRL: 80, Dec

International DX Contest, Results 1986 ARRL: 78, Oct

International DX Contest Awards Program, 1986 ARRL: 83, Feb. June VHF QSO Party Results 1986: 94, Sep

June VHF QSO Party Rules: 88, May Midnight Special, Top Scores, ARRL 80/75-Meter: 84, Jun

November Sweepstakes Announcement 53rd ARRL: 90, Oct

November Sweepstakes, Results, 52nd ARRL: 80, May

Novice Roundup Announcement, 1986: 93, Jan

Novice Roundup Results, 1986: 82, Jun

September VHF QSO Party, Results, 1985: 89, Jan

September VHF QSO Party, Rules: 82, Aug Straight Key Night 1985: 74, Apr

UHF Contest Results, 1986 ARRL: 81, Dec

UHF Contest, Rules 1986: 86, Jul

VHF Sweepstakes Results, 1986 ARRL: 78, Jun

VHF Sweepstakes Rules, 40th January: 79, Dec

10-GHz Cumulative Contest, Announcing the First ARRL: 84, Jun 10-Meter Contest Results 1985 ARRL: 83, Jul

10-Meter Contest Rules, ARRL: 81, Nov

160-Meter Contest Results, 16th Annual: 75, Apr 160-Meter Contest Rules, ARRL:

81. Nov

### **EDITORIALS**

Field Day!: 9, Jun Field Day, A Sad Postscript: 9, Aug Home for Our History, A: 9, Sep New Bands, Those: 9, Oct New Year, New Opportunities: 9, Jan Novice Enhancement Moves a Step Forward: 9, Jul Packeteers, Good News for: 9, May Packet Fever: 9, Apr Privacy Act-Facts and Fiction: 9, Feb Quarter Century in Space, A: 9, Dec Spirituality: 9, Mar Welcome Mat! Let's Put Out: 9, Nov What Has the ARRL Done for YOU Lately?: 9, Aug

#### FEATURE ARTICLES

#### General Interest

Amateur Capsule 1985 (Tripp and McKnight): 54, Feb ARRL: A Good Deal and a Good Deal Morel: 45, May **Board Braves Connecticut in January** (Place): 59, Mar Board Charts Course for the Future, ARRL (Place): 61, Sep

Boston Museum of Science, Ham Radio Spends a Weekend at the (Karpiej and Salow): 49, Jul

China, Ham Radio in (Peterson): 48, Jul

Feedback: 40, Aug

Club Challenge for the '80s: How to Raise Some Dough (Kluger): 58, Sep

Club Involvement in the Volunteer Examiner Program (Michels, Light and Comstock): 52, Mar

Colombia Volcano, The (Shaio and Laun): 13, Feb

CW QSOs, The K7DBV Guide to Easy (Williamson): 48, Aug

Field Day Form, Getting into (Bellinger): 40, May

Field Organization Call-Sign Badges (Place): 46, Jul

Golden Jubilee of DXCC Award (Lindholm): 60, Sep

Goldwater Scholarship Fund: Over the Top! (Karpiej): 60, Jan

Gravity Gradient Modulation: The Newest Frontier in Amateur Radio (Morris): 34, Apr

Ham Radio—A Class Act in School (Lisle): 54, Jan

Honorary Vice Presidents, ARRL's: We Salute You! (Tripp): 56, Feb IARU Region 3 Meets in New Zealand

(Baldwin): 56, Mar IMRA: Amateurs with a Mission

KORE—The Benefits of ARRL Membership (Mendelsohn): 44, May Meteor Scatter—An Astronomical

Perspective, VHF (Owen): 14, Jun Feedback: 52, Sep

Meteor-Scatter Communications (Greene): 14, Jan

(Mullen): 51, Jul

Meteor Scatter—European Style (Willis): 35, Nov

National Scout Jamboree, Amateur Radio at the 1985 (Kluger): 56, Jan Novice Enhancement NPRM, FCC

Issues (Sager): 48, Jun On the Air—At Last! (McKnight):

15, Nov
OSCAR at 25: The Amateur Space
Program Comes of Age (King

Program Comes of Age (King, Riportella, and Wallio): 15, Dec Packet Radio in Emergency Communications (Winter): 53, Sep

Robbing the Cradle: Aggressive Recruitment of Young Hams (Koch): 46, Aug

"Slipup," The (Vaughan): 50, Dec The ARRL License Manual Series—The Complete Study Guide (Wolfgang): 54, Mar

Throw Away Your Pencil! (Broaddus): 43, Apr

Traffic Handlers, Station Design for (Wells): 50, Jan

VHF Mountaintopping for the '80s (Lindholm): 49, Mar

#### **Technical**

Aerials-A Lost Art (Murphy): 20, Jul

ALC for Class AB<sub>1</sub> Amplifiers (Mandelkern): 38, Jul

Antennas: From the Ground Up (Hall): 37, Jun

Beyond the Dipper (Hayward): 14, May Feedback: 40, Aug Broadband Antenna for 80/75 Meters.

A Truly (Wermager): 23, Apr Broadband Dipoles—Some New Insights (Witt): 27, Oct

Cable Television Interference: 1986 (Bonaguide): 33, Jan

CATVI Field-Strength Measurements Made Easy (Bonaguide): 42, Feb Code with One Hand, Send Error-Free

(Quay and Turrin): 25, Jan Construct a Wire Log-Periodic Dipole Array for 80 or 40 Meters (Uhl): 21, Aug

CW-Program Cartridge for the Atari Computer, A (Stuntz): 34, Aug Feedback: 47, Dec

CW Transmitter for 902 MHz, A (Hilliard): 32, Mar

Digital Signal Processing—A Modern Audio Filter (Williams): 32, Dec

Electromagnetic Pulse and the Radio Amateur (Bodson): Part 1—15, Aug; Part 2—22, Sep; Part 3—38, Oct; Part 4—30, Nov

Flasher, The (Murphy): 28, Dec Four-Element Yagi, The W2PV (Myers): 15, Oct

Gaining on the Decibel (Shuch): Part 1—20, Feb; Part 2—28, Mar; Part 3—29, Apr

Gravity Gradient Modulation: The Newest Frontier in Amateur Radio (Morris): 34, Apr

Linear Amplifier, An All-Band, 1500-Watt-Output 8877 (Pittenger): Part 1—15, Sep, Part 2—20, Oct Loop Antennas, Small, High-Efficiency

(Hart): 33, Jun Microcontroller, The ARRL (Bloom):

14, Jul Mode-L Parabolic Antenna and Feedhorn for OSCAR 10, A (Ruperto): 24, May

Feedback: 40, Aug Mounting Large-Size Antennas, An Alternative Method of (Meyer):

MOuSeFET CW Transmitters, Three Fine Mice— (Masterson): 19, Dec Perfect Picture (SSTV)—Part 2. In

Perfect Picture (SSTV)—Part 2, In Search of the (Abrams): 18, Jan Feedback: 47, Dec

Ray Tracing and VHF/UHF Radio Propagation (Priedigkeit): 18, Nov Real-Time HF WEFAX Maps on a Dot-Matrix Printer (Sueker): 15, Mar

Feedback: 43, Jul Receiving Aid, A Simple, Effective (Sommer): 15, Feb

RF Switches for the Ham Shack, Inexpensive (Follini): 25, Aug Romscanner, The (Taggart): 21, Mar Rotator Controller, An Automatic

(Bloom): 40, Sep Feedback: 46, Nov Satellite DXing, Adventures in (Jansson and Wilson):

Part 1-32, Apr; Part 2-28, May; Part 3-27, Jun; Part 4-23, Jul

Series-Parallel Network, Introducing the (Bruene): 21, Jun Feedback: 52, Sep

SIMPLEceiver, The (Williams): 34, Sep Spiderweb—The Range Circle Calculation (Zachariadis): 36, Feb Spots Before Your Eyes (Hall):

34, May Spreadsheets for the Modern Hamshack (Ward): 29, Feb

SuperSCAF and Son—A Pair of Switched-Capacitor Audio Filters (Arndt and Fikes): 13, Apr Feedback: 51, Oct

SWAILER! Meet the (Murphy): 37, Jan Tribander, Tune Up Your (Pagel): 27, Apr

Universal Grid-Locator Program for Your Personal Computer, A (Overbeck): 30, Dec

UNKEMO (ÚNiversal KEyer MOdule), The (Murphy): 27, Feb Feedback: 40, Aug

Upgrade Math, Untangling (Evans): 39, Feb

Feedback: 42, Apr VHF/HF Remote-Base Station, A

(Heil): 30, Jul WeatherFAX Gray-Scale Generator

(Isleib): 22, Nov 160-Meter Linear-Loaded Sloper, The KI6O (Yungling): 26, Apr

1935 Ham Receiver, A (Hyder): 27, Sep.

#### FEEDBACK

These items are not listed elsewhere in this index.

CAT Control System, A (Strom—Oct 1985): 42, Apr

CW Receive Program for Atari Computers, A (Stuntz—Nov 1985): 53, Feb

Diodes and How They Are Used (DeMaw—Mar 1985): 43, Jul SSB Gear, The Principles and Building of (DeMaw—Oct 1985):

Vertical Antenna Design, Computer-Aided, Two-Band (Plasencia—Dec 1985): 53, Feb

#### FM/RPT

Amateur Auxiliary? What's Happening with the: 59, Nov

BRATS, A Popular Repeater Run by: 61, Jun

Coordinators, What Do They Want to Know about Repeaters?: 64, Aug Dayton, Hot Stuff at: 70, Jul Frequency Coordination, Trends in:

58, Apr Jammer, To Catch a: 61, Oct Repeater in Every Pot, A: 72, Feb Repeater, Full Utilization of a: 75, May

Repeater, A Model: 77, Jan

United We Stand: The Need for Strong Frequency-Coordination Organizations: 68, Dec

When the Frequency Coordinator Doesn't: 75, Sep 2 Meters Is Alive and Well: 83, Mar

#### **HAPPENINGS**

Advisory Committees, Study of ARRL: 48, Nov

AeroMexico Plane Crash: 48, Nov "Amateur Administration" Course Topic: 51, Aug

Amateur Power, FCC Study of: 52, Jun

Amateur Radio Operators Fined by FCC: 51, Aug

Amateur 902-928 MHz Limitations Clarified, Pulse Emissions Permitted: 53, Oct

Ambassador Award Winner Selected, Amateur Radio: 48, Nov

AMSAT Phase 3C Launch Delayed: 68, Sep

AO-10 Returns to Service: 69, Sep ARES Brochure, New: 53, Jun ARRL Financial Statements Released,

Audited: 50, May
ARRL HQ Staff Changes: 54, Jun

ARRL HQ Starr Changes: 54, Jun
ARRL to FCC: Reconsider Question
Pools: 51, Dec

ATIS, Comment Period Extended for: 53, Dec

Attention Junior High School Teachers!: 67, Sep

Automatic Control for Digital Communication at 50 MHz and Above— The Part 97 Changes: 46, Apr

Auxiliary Operation "Everywhere," What the League Had to Say on: 65. Jan

Aux Link Proposal, FCC Drops: 47, May

Better Times: 100, Sep Big Island Amateur Radio Club Petition (RM5361): 47, May

Board Members, League Members to Choose: 53, Jul

Broadcasters Request Preemption of RF Levels: 53, Jun

Call-Sign Program, FCC Discusses Possible New: 47, Nov CAP Rule Changes: 53, Dec

Cosmos on 2304 MHz, Another New: 52, Dec

CQ Novice: 52, Dec Dayton Awards: 54, Jun Director and Vice Director Elections, ARRL, Second Notice: 50, Aug

Double Trouble: 52, Aug ECPA Passes Congress, Sent to President: 51, Dec

Election Results, ARRL: 63, Jan Emergency Communications Definition, FCC Reinstates: 52, Jun

Employees, New ARRL: 52, Aug EPA Proposes to Limit Public Exposure to RF: 51, Aug

Equipment Plan, The ARRL: Essential Protection for Ham Radio Equipment: 48, Nov Executive Committee Meeting, ARRL: 50, Aug

Extension of Time to File Comment in Docket 85-215 Denied, QCWA Request for: 65, Jan

F2A Emissions Above 29.5 MHz: 49, May

FAR Scholarship Announcement: 53, Jun

FCC Corrects Typographical Errors: 49, May

FCC Denies Petition For Reconsideration by ARRL: 55, Jul
FCC Enforcement: 51, Aug

FCC Grants Temporary Waiver for Automatic Retransmission of Third-Party Traffic: 46, May

FCC Legislative Requests: 47, May FCC No Longer Provides Copies of Rule Makings: 55, Jul

FCC Preemption of RFI, More on: 54, Jun

FCC Proposes Fees; Amateurs Exempted: 67, Sep

FCC to Publish Summaries in Federal Register: 46, May

Form 610, Watch That: 66, Jan Foundation Scholarship Winners Announced, ARRL: 49, Nov

FReD: ARRL's Field Resources Directory: 51, Aug

F8E Emission Above 928 MHz, SCRRBA Asks FCC for: 59, Feb Gains and Losses and the Microwaves—and Major Part 97

Revisions: 66, Mar Gettysburg FCC, Modified Procedures for Research at: 48, Nov "Gil" W1CJD: 53, Jun

Goldwater Scholarship Contributions: 48, Apr; 47, May

Goldwater Scholarship Fund: 54, Oct Green, Wayne, W2NSD, Visits ARRL HQ: 52, Jun

GWEN: 52, Dec

Ham Issues \$1450 Forfeiture: 52, Dec Home Electronic Devices, FCC Denies ARRL Petition to Require Labeling

How About Credit for Written Exams, Too?: 47, Apr

HQ Open House, ARRL: 52, Aug HQ Staffers, New: 47, May HR 3378—Privacy Act, More on:

48, May HR 3378 Passes Subcommittee: 53. Jul

Identification System for Transmitters Including Amateur, FCC Issues NOI for Possible: 52, Oct

Illegal CB Radios, FCC Enforcement Actions of: 52, Dec

Illinois Toll-Free Hotline: 47, May Interference Threat to Weather Satellite Receivers: 68, Sep

International Amateur Radio Arrangements: 53, Dec

K6DUE Retires: 48, Nov Knochenhauer Named Vice Director: 100, Sep

Lamb, James, W1AL: 47, May

League Advisory Committee Members: 48. May

League Requests Partial Reconsideration in 30-Day Retest Issue; Request for Stay Denied; FCC Affirms Novice Integrity Problem: 66, Jan

Licensing Figures, FCC: 52, Dec Low-Power Video Links, 902-928 MHz Access Asked for: 58, Feb

Low-Power Video Links to Cleaners, "No, It Doesn't!"—League Comments Take 902-MHz: 58, Feb NARTE to Issue Commercial Tickets

to Amateurs: 53, Dec National Convention, ARRL: 47, Nov New FCC Telephone Directory

Available: 55, Jul
New Mexico Amateurs Lower License
Plate Fees: 55, Jul

New Third-Party Agreement with 4U1VIC: 59, Feb

Norfolk Office Moves, FCC: 49, Nov Northern Kentucky Tower Fund: 52, Jun; 68, Sep

"No Technicians on 160," FCC Affirms: 60, Feb

Novice Enhancement: 69, Sep Nuclear Accident: 55, Jul Open House at HQ: 52, Jun

Output Limit for Full-Carrier Double-Sideband AM Phone Affirmed by Court, 1500-W PEP: 59, Feb

Packet Stations When Retransmitting Third-Party Traffic, FCC Authorizes Automatic Control for: 51, Dec PRB-1 Successes: 47, May

Preemption for Satellite Dishes, FCC Okays: 46, May

Private Land-Mobile Radio Service Prohibition on External Frequency Control, FCC Proposed: 52, Jun Public Digital Radio Service, League

Blasts Petition for: 46, Apr
Public Digital Radio Service Would
Cabble Helf of 6 Meter Band:

Gobble Half of 6-Meter Band:
46, Apr

Pulse Emission in the 902-MHz Band: 100, Sep

Question Pools, ARRL to FCC: Reconsider: 51, Dec

Question Pools, Novice and Extra Class: 67, Sep

Radiolocation on 160, More on: 64, Jan

Radio Reading Services 220-MHz
Petition, ARRL Files Comments in
Opposition to: 67, Sep
R/C Channels, FCC Cautions

R/C Channels, FCC Cautions Modelers and Dealers of Proper Use of: 51, Aug

Repeat Nominating Solicitation: 48, Apr; 49, May; 54, Oct; 49, Nov Repeater Coordination, FCC Acts on: 54, Jul

RFI Case, Ham Wins: 54, Oct RFI Susceptibility, FCC Denies ARRL Petition to Require Labeling of: 54, Jul

Richman, Harold R., W4CIZ: 89, Mar San Diego Field Office Moves, FCC: 52, Aug

Satellite News: 47, Nov

Scholarship Winners, DARA Names: 52, Aug

Scholarship Winners, 1986 Foundation for Amateur Radio: 54, Oct

Section Manager Appointment: 66, Jan; 60, Feb; 89, Mar; 54, Oct; 49, Nov

Section Manager Election Notice: 66, Jan; 59, Feb; 48, Apr; 49, May; 55, Jul; 52, Aug; 54, Oct; 49, Nov

Section Manager Election Results: 66, Jan; 60, Feb; 89, Mar; 48, Apr; 49, May; 55, Jul; 52, Aug; 54, Oct; 49, Nov

Simplex Autopatch Advertisements: 52, Jun

Soviet Satellite, New: 49, Nov Space Station Discussed, Permanent Amateur Facility: 47, Nov

Spectrum Allocated for Mobile, Cellular Radio and Mobile Satellite Services: 100, Sep

Spectrum Auctions, FCC Chairman Testifies for: 52, Dec

Spread-Spectrum Rules, Our New: 45, Apr

Swap and Shop Net Participants, FCC Cites: 47, May

Third-Party Agreement with Sierra Leone, New: 53, Dec

Third-Party-Participation Rules, FCC Closes Loophole: 58, Feb

TV/RFI Standards, Voluntary: 47, May VEC Maintenance of Exam Question Pools, ARRL Comments on: 65, Jan VECs to Maintain Question Pools: 52, Oct

Victor C. Clark Youth Incentive Program: 68, Sep; 48, Nov "Volunteer Examiners" in the Commercial Sector?: 52, Dec West Texas Section, New: 69, Sep Whiting, Richard A., WØTN, Appointed Dakota Division Vice Director:

"WR" Call Signs, Commission Deletes Reference to: 51, Aug

Written-Examination Credit, FCC to Allow: 51, Dec

W1AW Operation: 69, Sep W4FRU New DXAC Chairman: 51, Aug

W5NW, SK, An Era Passes: 47, Apr W8RC Named Chairman of the Legal Strategy Committee: 54, Jun W0LCT Reelected CCIR Director:

52, Aug WØORE Cards: 52, Jun

Zeigler, Michael R., ARRL Controller:

MHz, ARRL Seeks: 67, Sep
 220-Band, Petition Threatens: 54, Jun
 300 Amateurs Provide Communications: 67, Sep

420-430 MHz Line A: 55, Jul 7075-7100 kHz to Novice and Technicians Outside Region, FCC Proposes: 52, Dec

#### HINTS AND KINKS

Accu-Keyer Using "LS" Series ICs, An: 40, Apr Antenna Insulators from the Golf Course: 44, Jul

Arcing in the Hy-Gain 402BA Yagi Antenna, A Cure for: 49, Oct Audio-Filter Connections for the

Ten-Tec Argonaut Transceiver: 43, No

Audio Recording and Retransmission, System Considerations in: 44, Nov Auxiliary Audio Output for the Yaesu

FT-101ZD, An: 49, Oct Bessell Nulls to Set FM Deviation: 45, Jul

COR and Timer Circuit, A Poor Ham's: 40, Apr

Crystal-Controlled 2-M Rig, Use a Scanner to Set the Frequency in Your: 45, Jul

Cushcraft A3 or A4 Triband Antenna, Add Two Elements on 40 M to: 49, Sep

Dim-Dial Problems, Flashcubes Solve: 52, Feb

Dipoles for Hand-Held 2-M
Transceivers: 48, Jan
Etched Monimatch Is Actually an
Omnimatch, The: 49, Jan
Feed-Line Tests: 48, Oct
Flash! VCR Cures TVII: 45, Dec
FT-101ZD Modifications: 49, Oct
Heath DX-20 and VF-1 on 30 Meters,
Put Your: 49, Jan

Holder for 9-V Batteries, A Free: 52, Feb

Hy-Gain® Hy-Tower for Use on 30-Meters, Adapt the: 45, Jul Lightweight Wire, An Inexpensive Source of: 44, Jul

Message-Waiting Indicator for TNCs, A: 50, Sep

Modification for HAL "FYO" and Some Bencher Keys that Prevents Accidental Paddle Dislocation, A: 39, Apr

More RFI/TVI Tips: 48, Mar Morse ID Generator, A Mechanical Automatic: 48, Oct

National Electrical Code, Hams and the: 44, Jul

N Connectors and Belden 9913 Coaxial Cable: 51, Feb Open-Wire Line, Another Source of

Spacers for: 38, Aug Paddle-Key Covers, Inexpensive:

39, Apr Parallel Resistance Nomograph, A:

Power Supply for Mobile Amplifiers, Three-Phase, High-Voltage: 37, Aug Protect Your Station from Lightning? Will a Spark Plug: 48, Oct

QRP Transmitter for 30 Meters, A: 43, Nov

QSK Amplifier Keying: 37, Aug Radial Tips: 37, May

Radio Telephone/Mobile Radio Installation Guidelines, General Motors Corporation: 44, Dec Reed-Relay Keying for the Accu-Keyer: 39, Apr

RF Ground, A Low-Impedance: 52, Feb

RF Probes Revisited: 47, Mar RF Sampler for Coaxial Transmission Lines, A Handy: 48, Mar

Roof Patch for Permanent Sealing: 52 Feb

SB-200, More on the Balanced Grid Circuit for the: 45, Dec

SB-220 Amplifier, A Balanced Grid Circuit for the Heath: 38, Aug SB-220 Amplifier, Tips for the Heath: 37, Aug

Slug-Tuned Radios, A Gauge for Adjustment of: 51, Feb

Speaker Microphone for Your Hand-Held Transceiver, A Home-Built: 36, May

T-Boom Quagi, A: 48, Oct Ten-Tech Argosy, AGC and RF-Gain Controls for the: 51, Feb

Test Load, A High-Current: 48, Mar Touch-Controlled Lamps, More on RFI to: 49, Jan

Tower Anchors, Some Advice about: 49, Sep

TS-830S, Fine Tuning for the: 44, Jul TVI, Living with: 45, Dec Voltmeter, An Automobile: 38, Aug

Voltmeter, An Automobile: 38, Aug Weather Guard for Base-Loaded Vertical Antennas, A: 44, Jul Wire Spreaders, Plastic Film Spools as: 38, Aug

Wrap Your Guy Lines!: 48, Oct.

#### HOW'S DX?

Bits and Pieces: 57, Oct Clipperton Diary: 70, Sep Clipperton Revisited: 49, Apr KH6BZF, "A Ham's Ham": 69, Mar Mail, Reading the: Part 1—67, Jan; Part 2—63, Feb Montage: 55, Jun Unusual Awards: 55, May What's in a Name?: 51, Nov W2QHH—A Persistent QRP Quest: 57, Jul W5KC—The Gentle DXer: 55, Aug.

#### IARU NEWS

Amateur Radio Administration: 66, Apr ARDF: 71, Dec CCIR and You, The: 63, May Continental News: 69, Aug ITU Secretary-General Addresses WIA's 75th Anniversary Banquet: 72, Jan JA1AN Honored: 80, Sep Monitoring System, The IARU: 66, Feb Regional Administrative Radio Conference: 65, Jul What Is the IARU: 63, Nov Who Reads IARU News?: 69, Oct.

#### IN TRAINING

ARRL HQ and Amateur Radio
Instructors Enter New Partnership:
63, Apr
Club Classes Can Work! (West):
76, Feb
Motivated Instructors Motivate
Students: Part 1—72, Oct;
Part 2—73, Dec

On Giving Novice Examinations: Part 1-69, Jun; Part 2-78, Aug.

#### **KEYING AND CONTROL CIRCUITS**

Code with One Hand, Send Error-Free (Quay and Turrin): 25, Jan UNKEMO (UNiversal KEyer MOdule), The (Murphy): 27, Feb. Feedback: 40, Aug.

#### **MAKING WAVES**

Concerned Hams Take Action: 74, Feb Help Us Meet Your Needs: 61, May Results Are In, The: 60, Nov. Three Young Hams Have What It Takes: 78, Mar Two Hams Branch Out: 71, Jul Youth Forum This Month: 81, Sep

#### **MEASUREMENT AND TEST** EQUIPMENT

Beyond the Dipper (Hayward): 14, May Feedback: 40, Aug.

#### **NEW BOOKS**

Beacon Guide, New (Stryker): 45, Jul Commodore Ham's Companion, The (Grubbs): 47, Jan Radio Database International 1985-6, Parts 1 and 2 (Magne and Jones): 18, Jul

**NEW PRODUCTS BNC Series Connectors, Mouser** Electronics': 35, Feb CMOS Chopper Op Amp, Teledyne Semiconductor: 24, Aug Coaxial Switch, MFJ Enterprises Two-Position: 45, Mar **Encoder, Communications Specialists** SS-32 HB CTCSS: 38, Apr Kenwood TH-Series Hand-Held Transceivers, New Accessories for the: 26, Feb Keyer Chip, Curtis 8044ABM: 42, Jul Mobile DTMF Encoder/Decoder, Cetec Vega Model ED-707: 31, Mar Model 650/DC VOM Test Set from Datacom: 45, Mar M.S.S. Wonder Rods: 47, Jun Multitester, Ramsey Electronics D-4100 Compact Digital: 46, Sep OKI Introduces High-Speed Version of 256K x 1 Dram: 26, Feb Outlet Box, Heath Company GD-1495 Smart: 42, Mar PK-64 Data Controller, AEA Pakratt Model: 43, Jan Printed Stripboards from Dick Smith Electronics: 42, Jul Regency MX7000 Scanner Monitor:

27, Aug Relay Catalog, Kilovac Corporation: 38, Apr Software for Electronic Ladder Circuits, LADPAC: 43, Jan SWR/Wattmeter, MFJ Enterprises Digital: 24, Aug

Yaesu AD-2 Duplexer for the FT-2700RH Dual-Band Transceiver and FT-726R VHF/UHF All-mode Transceiver: 42. Jul

#### ORGANIZATIONAL

**Board Braves Connecticut in January** (Place): 59, Mar Board Charts Course for the Future, ARRL (Place): 61, Sep Club Challenge for the '80s: How to Raise Some Dough (Kluger): 58, Sep Financial Statements Released, Audited ARRL: 50, May Golden Jubilee of DXCC Award (Lindholm): 60, Sep Goldwater Scholarship Fund: Over the Top! (Karpiej): 60, Jan Honorary Vice Presidents, ARRL's: We Salute You! (Tripp): 56, Feb IARU Region 3 Meets in New Zealand (Baldwin): 56, Mar National Convention, San Diego, 1986 ARRL (Hicks): 44, Aug Novice Enhancement NPRM, FCC Issues (Sager): 48, Jun Operating Events and Conventions, Major ARRL-1986: 61, Jan Spread Spectrum: Frequency Hopping, Direct Sequence and You (Feinstein): 42, Jun

Moved and Seconded Board of Directors Minutes, Jan 23-24, 1986: 61, Mar; July 24-25, 1986: 63, Sep **Executive Committee Minutes.** No. 420, Dec 14, 1985: 60, Feb No. 421, Jan 23, 1986: 65, Mar No. 422, Mar 22, 1986: 53, May No. 423, Jun 13, 1986: 53, Aug No. 424, Aug 23, 1986: 55, Oct Life Members Elected: Aug 24, 1985: 61, Feb; Mar 22, 1986: 74, May; Jun 13, 1986: 63, Aug; Aug 23, 1986: 61, Oct

#### PRODUCT REVIEW

ALM-203T 2-M Hand-Held Transceiver, Alinco: 45, Jun EPROM Programmer, Heath Model ID-4801: 42, Aug Heath Model HD-1420 VLF Converter and Model HD-1422 Antenna Noise Bridge: 40, Nov HF Linear Amplifier, Ten-Tec Model 425 Titan: 36, Apr HF Mobile Antenna, Spider: 40, Jul ICOM IC-735 HF Transceiver: 44, Jan "Most Accurate Clock," Heath GC-1000: 46, Jan Novice CW Transceiver, Heath HW-99: 43. Mar PAKRATTTM Model PK-64, AEA: 44,

Radio Direction Finder, Dick Smith Electronics K-6345: 41, Aug Solicitation for Product Review Equipment Bids: 47, Jun Terminal Node Controller, MFJ Enterprises MFJ-1270: 47, Sep

TM-2570A 2-Meter Transceiver, Trio-Kenwood: 45, Oct TS-440S HF Transceiver, Trio-Kenwood: 41, Dec TS-940S Transceiver, Trio-Kenwood Communications: 47, Feb 220-MHz Amplifier, Mirage Communications C211: 49, Feb 220-MHz Yagi, KLM 220-22LBX:

#### **PUBLIC SERVICE**

48, Sep.

Colombia Volcano, The (Shaio and Laun): 13, Feb Get Ready, Get SET, Gol: 89, Oct Packet Radio in Emergency Communications (Winter): 53, Sep Preparing for the Unexpected (1985 SET Results) (Ewald and Hemmis): 80, Jul Public Service Communications at the 1985 Scout Jamboree (Cavanagh):

72, Apr **Public Service** Amateur Radio Comes Through in Survival Training Emergency: 91, Sep Amateurs Lead Miamisburg through the Thick of Phosphorous Fog: 69. Nov Code Blue: Hams and Hospital Emergencies: 85, Jan Hurricane Kate and Her Evil Friends, The Tornadoes: 76, May Let's Communicate: 92, Mar Management and Net Managers: 79, Aug March Roars; Northern Kentucky Responds: 75, Jun National Disaster Medical Services: 80, Feb Presenting the Blue Ribbon Committeel: 69, Apr "Trial by Flood"—A New EC Gets His Feet Wet: 77, Jul The UNICEF "Round the World" Torch Relay: 76, Dec 1986 Pittsburgh Marathon, The: 75, Oct.

#### **QST PROFILES**

Paul Horowitz, W1HFA: "E.T., Phone Harvard": 70, Oct Walker A. Tompkins, K6ATX: "Always Typing Xcitement": 60, May George Wallington, W2DSE: From Jazz Band to Sideband: 71, Aug.

#### REGULATIONS

License Renewal Information: 62, Jan Power Limits, US Amateur: 62, Jan Subband Allocations, US Amateur: 62. Jan

#### WASHINGTON MAILBOX

Antenna Structures: 73, Jan Potpourri: 86, Mar The Wonderful World of Call Signs: Part 1-66, Oct; Part 2-69, Dec

Untangling the Mystery of FCC Rules: Part 1—65, Jun; Part 2— 72, Aug.

#### SATELLITES

OSCAR at 25: The Amateur Space Program Comes of Age (King, Riportella and Wallio): 15, Dec

**Amateur Satellite Communications** 

Birth of a New OSCAR: First All-Japanese Project Debuts: 73, Oct Digital Satellite World, The: 89, Sep Future Is up There, The: 91, Mar Gateways: Keys to Opening New Communication Door: 70, May Japanese Amateur Satellite Number One (JAS-1), Introducing: 71, Jun NEXT Generation Satellites on the Horizon: 82, Jan Operating the Flying Mailbox: FO-12 Mode JD: 66, Nov Prospects for Mobile and Portable

#### SPECIALIZED COMMUNICATIONS TECHNIQUES

OSCAR Operation: 61, Apr

Meteor Scatter—An Astronomical
Perspective, VHF (Owen): 14, Jun
Feedback: 52, Sep
Meteor-Scatter Communications
(Greene): 14, Jan
Meteor Scatter—European Style
(Willis): 35, Nov
Mode-L Parabolic Antenna and
Feedhorn for OSCAR 10, A
(Ruperto): 24, May
Feedback: 40, Aug
Perfect Picture (SSTV)—Part 2, In
Search of the (Abrams): 18, Jan
Feedback: 47, Dec
Romscanner, The (Taggart): 21, Mar
Satellite DXing, Adventures in
(Jansson and Wilson):
Part 1—32, Apr, Part 2—28 May
Part 3—27, Jun, Part 4—23, Jul
Spiderweb—The Range Circle Calculation (Zachariadis): 36, Feb

Spread Spectrum: Frequency

(Feinstein): 42, Jun

Hopping, Direct Sequence and You

TECHNICAL CORRESPONDENCE ALC for Triode Amplifiers: 46, Dec Antenna Switcher, An Improved Remote: 51, Sep Balun Transformers in Transmatches: 39, Aug Better Sort: 40, Aug Bolts from the Blue: 43, Jul Cable TVI: 39, May CAT and the Commodore, The: 50. Oct CAT and the IBM PC Jr: 41, Apr Choking RF: 42, Apr Coaxial Switches and Lightning Protection: 43, Jul Coaxial Switches and Lightning Protection, More on: 50, Oct Damaging Amplifiers by Overdrive: 50, Oct dB and Gustav Fechner: 39, Aug dB or not dB: 43, Jul Easy Does It: 42, Apr

EMP Experience, An: 45, Nov

FM and the TS-430S: 53, Feb Half-Sloper Observations: 45, Nov Helical Antenna Beamwidth: 42, Apr HF Packet/Amtor RTTY Tuning System, An: 51, Sep HF WEFAX on the IBM PC: 46, Dec Input Impedance of LPDA Antennas: 51, Oct Log = LN: 39, Aug Loop Filters: 52, Sep Mast-Mount Amplifier QRM, More: Meteor Scatter: 51, Sep Mho, Mho, Tell Us Mho!: 38, May Mixers with Muscle: 51, Apr More Volts-No Chirp: 42. Apr More on 900-MHz: 39, Aug One-Turn Loop! Beware the: 50, Oct Pesty RFI: 39, Aug PTFE in RF Circuits: 43, Jul Remote Controllers: 53, Feb Remote Controllers Revisited: 38, May Solid-State Muscle: 52, Sep Super Duper Poop: 46, Mar Super Duper Printer: 41, Apr Switch an Antenna, More'n One Way to: 45, Nov T For Tau: 38, May Telephone RFI, More on: 41, Apr TV Booster Amplifier QRM: 52, Sep TVI Mystery Solved: 41, Apr WEFAX Information: 45, Nov

# UNDER CONSTRUCTION AC-Outlet Strip with Filtering,

900-MHz Propagation: 46, Mar

A Ham-Shack: 25, Dec Antenna Switcher for HF, A Remote: 24, Jun Capacitors, Measuring Small-Value: 31, Sep Coil Inductance, A Tester for: 20, Apr Feedback: 40, Aug Field Tester for Antennas: 40, Mar Preamplifiers, Learning to Work with: 21, May QRP Transmatch—A Novel Approach: 30, Aug Feedback, 51, Oct Signal Generator, Build a Homemade: 40, Jan Feedback: 42, Apr SWR Twins-QRP and QRO. The: 34, Jul VHF/UHF Signal Generator, Construct a: 33, Feb WWV and CHU in Your Workshop:

#### VHF AND MICROWAVES

The New Frontier

42. Oct

26, Nov.

Circular Waveguide for 2304 MHz: 62, Aug
Directional Couplers: 60, Apr
Microwave Amplifiers: 78, Jan
Microwave News from Oregon: 55, Nov
Multiband Beacon from North
Carolina: 78, Sep
New 3456-MHz Record: 67, Dec

160-Meter "Shortie," How to Build a:

New World Record on 3456 MHz: 67, May 10-GHz Diode Detector/Mixer, A: 82, Mar 1296-MHz Activity from Colorado: 65, Oct

The World Above 50 MHz

Beacons: Where Do We Go from Here?: 66, Jul
Best Sporadic-E Season Ever Down Under: 59, Jun
Calling-Frequency Etiquette: Some Progress, but Still Room for Improvement: 76, Sep
E Season up to Expectations—So Far: 60, Aug
Get Out and Have Some Fun: 64, Dec Gs Get 6 Meters!: 80, Mar
It's Your Column: 68, Feb
Record-Breaking Aurora: 68, May
33 cm, Let's Get Started on: 74, Jan
1986 E<sub>s</sub> Season in Review:
Part 1—62, Oct; Part 2—56, Nov.

YL NEWS AND VIEWS

Amateur Radio Leads to Career in Electronics for KA1DNB: 72, Jul Buckeye Belles, Happy Silver Anniversary: 64, Apr K4AOH: A Friend Indeed: 87, Mar NF9G and KA9UJM: Two YLs from Valpo: 64, Jun "Pitcairn Island? I've Been There," Says WD9GQV: 79, Jan Rose Ellen Bills, N2RE, Silent Key: 68. Oct Smiling Voice from New Brunswick— VE1BWP: 82, Sep Words of Wisdom from KA10BA: 70, Aug YLISSB Gathers in Seattle for Annual Convention: 62, Nov 1986 DX-YL to NA-YL Contest Results: 72, Dec 1986 Officers, Young Ladies Radio League: 73, Feb.

#### MINI DIRECTORY INDEX

**Advisory Committee Members:** 48, May Club Challenge for the '80s Rules: 58, Sep Club Contest Rules: 94, Jan DX Contest Awards Program: 83, Feb Emergency-Traffic Committee: 69, Apr Frequency/Mode Allocations: 62, Jan Golden Jubliee of DXCC Award: 60, Sep Hamfest Calendar Rules: 84, Sep License-Renewal Information: 62, Jan Major ARRL Operating Events and Conventions: 61, Jan Novice-Enhancement NPRM: 49, Jun OSCAR-10 Band Plan: 27, Jul QSL Bureaus Incoming: 57, Dec Outgoing: 73, Sep Reciprocal-Operating Agreements: 53, Dec Spread-Spectrum Rules: 45, Apr Third-Party-Traffic Agreements: 53, Dec VUCC Annual Listing: 66, Dec 902-MHz Interim Band Plan: 74, Jan

